

What is claimed is:

1. A flexible expandable sheet stent for insertion into a lumen of a vessel of a patient, comprising:

5 a constructive element comprising a longitudinal member having a multitude of connecting members attached to said longitudinal member, wherein the connecting members are arranged out of the plane of the constructive members to form a tubular structure.

2. The flexible expandable sheet stent of Claim 1, wherein the constructive element comprises a thin metallic blank.

10 3. The flexible expandable sheet stent of Claim 1, wherein the longitudinal members are relatively rigid.

4. The flexible expandable sheet stent of Claim 1, wherein the connecting members form periodically repeating winding outlines of a predetermined width.

15 5. The flexible expandable sheet stent of Claim 1, wherein in the expanded shape the connecting members take the form of circles.

6. The flexible expandable sheet stent of Claim 1, wherein the connecting members comprise a great number of V - shaped members, the angles of which are turned to one side.

20 7. The flexible expandable sheet stent of Claim 1, wherein the connecting members comprise a great number of Z-shaped members.

8. The flexible expandable sheet stent of Claim 6 or 7, wherein the connecting members make up a form that includes more than two angles directed by turns into opposite sides.

25 9. The flexible expandable sheet stent of Claim 1, wherein the wall width is equal to that of the constructive element sheet blank.

10. A flexible expandable sheet stent for insertion into the lumen of a vessel of a patient, comprising:

constructive elements in a shape of a stencil on a thin sheet metallic blank surface, the shape of the stencil comprising a relatively rigid band and forming periodically repeating twisting closed outlines having longer and shorter sides, wherein the longer sides of each outline are oppositely located in a relatively closed free loop having a shape which is substantially circular and forms an independent ring with a fastening point on said relatively rigid band.

11. The flexible expandable sheet stent of Claim 10, wherein in said stencil the constructive elements occupy a primary part of the surface of the metallic blank, stencil openings, radii of formed pockets round-offs and radii of the closed free loops short sides round-offs.

12. The flexible expandable sheet stent of Claim 11, wherein the openings have a width that is executed minimally possible technologically.

13. The flexible expandable stent of Claim 10, wherein the rigid band consists of consecutively united pockets.

14. The flexible expandable sheet stent of Claim 13, in which the consecutively united pockets are formed by a saw-shaped profile bend, whereas the bend of the pockets is executed into one or alternatively in different sides for an angle of about 120°.

15. The flexible expandable sheet stent of Claim 10, wherein a polymer loaded thread of a fixed length is located in the consecutively united pockets.

16. The flexible expandable sheet stent of Claim 10, wherein the short sides of the closed free loops are fastened by fragments of a relatively rigid band in a shape of the consecutively united pockets, whereas in case of stent diameter differentiated in its length according to the different diameters and extent of the afflicted vessel by the fragments of the relatively rigid band in a shape of said consecutively united pockets, the short sides of the closed free loops are fastened in a place of their transition from one stent diameter to another.

17. The flexible expandable sheet stent of Claim 13, wherein closed free loops are uniformly distributed along the stent length or in places where increased flexibility is most desirable.

5 18. The flexible expandable sheet stent of Claim 17, wherein one closed free loop is positioned approximately midway of the stent and the short sides of other closed free loops comprise a relatively rigid band of the consecutively united pockets.